

# Low Pass Filter

# RLP-190+

50Ω DC to 190 MHz

### Maximum Ratings

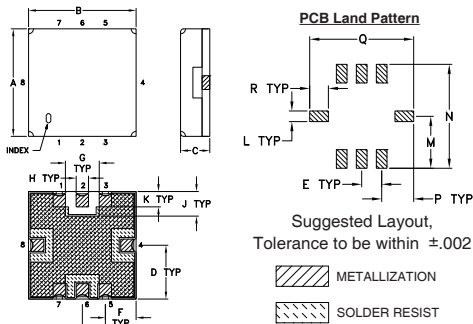
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W Max

Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

RF IN	2
RF OUT	6
GROUND	1, 3, 4, 5, 7, 8

### Outline Drawing

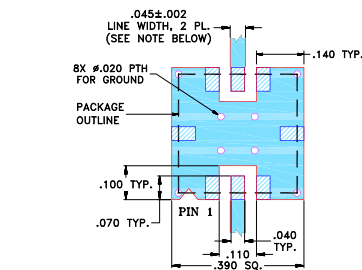


### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.350	.350	.100	.175	.075	.100	.110	.040	.080
8.89	8.89	2.54	4.45	1.91	2.54	2.79	1.02	2.03
K	L	M	N	P	Q	R	wt.	
.050	.040	.195	.390	.120	.390	.070	grams	
1.27	1.02	4.95	9.91	3.05	9.91	1.78	0.25	

Note: Please refer to case style drawing for details

### Demo Board MCL P/N: TB-332 Suggested PCB Layout (PL-176)



#### NOTES:

- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .025" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Features

- high rejection
- sharp insertion loss roll off
- excellent VSWR, 1.1:1 typ. @ passband
- aqueous washable

### Applications

- wireless communications
- receivers / transmitters
- TV distribution / digital TV



Generic photo used for illustration purposes only  
CASE STYLE: GP731

### +RoHS Compliant

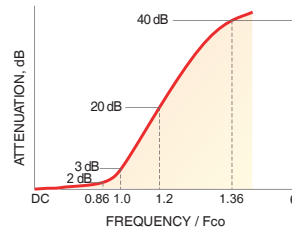
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Available Tape and Reel at no extra cost	
Reel Size	Devices/Reel
7"	10, 20, 50, 100, 200
13"	500, 1000

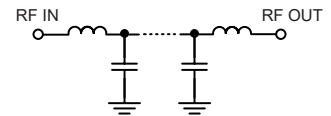
### Low Pass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

PASSBAND (MHz)	f <sub>co</sub> , MHz Nom.	STOPBAND (MHz)		VSWR (:1)	
		(Loss > 20dB)	(Loss > 40dB)	Passband Typ.	Stopband Typ.
DC - 190	220	264 - 300	300 - 1300	1.1	20

### Typical Frequency Response

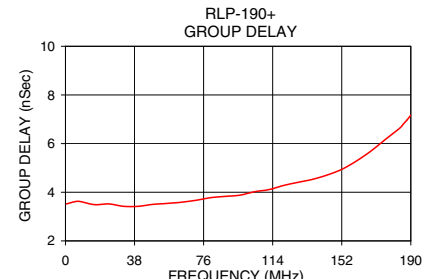
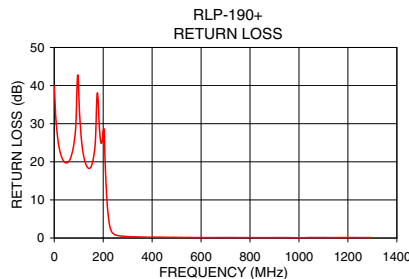
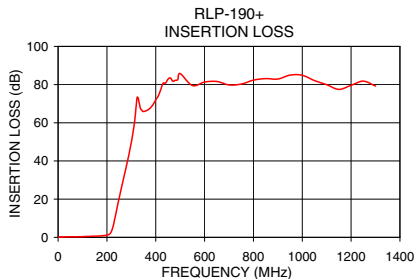


### Functional Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nSec)
	$\bar{x}$	$\sigma$			
0.5	0.09	0.00	39.92	0.5	3.52
5.0	0.10	0.00	33.48	5.0	3.61
40.0	0.26	0.01	20.08	16.0	3.49
120.0	0.47	0.01	21.69	32.0	3.42
160.0	0.65	0.01	20.87	56.0	3.54
190.0	0.95	0.02	25.34	72.0	3.67
208.0	1.46	0.04	20.08	88.0	3.83
216.0	2.49	0.12	9.42	112.0	4.11
220.0	3.62	0.19	6.30	128.0	4.41
224.0	5.25	0.27	4.21	136.0	4.53
228.0	7.30	0.34	2.88	144.0	4.71
240.0	14.50	0.43	1.23	160.0	5.28
252.0	21.68	0.45	0.78	168.0	5.69
264.0	28.50	0.44	0.61	176.0	6.17
300.0	49.86	0.65	0.39	184.0	6.64
500.0	85.78	0.95	0.16	186.0	6.81
1000.0	84.88	4.71	0.06	188.0	6.98
1300.0	79.26	5.38	0.11	190.0	7.17



#### Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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